

NRO-046-12

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193-1453 (703) 583-3800 Fax (703) 583-3821 www.deq.virginia.gov David K. Paylor Director

Thomas A. Faha Regional Director

Virginia Title V Operating Permit

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:

Aerojet Corporation (Aerojet)

Facility Name:

Orange County Facility 7499 Pine Stake Road

Facility Location:

Culpeper, Virginia 22701

Registration Number:

40743

Permit Number:

FSO40743

This permit includes the following programs:

Douglas W. Domenech

Secretary of Natural Resources

Federally Enforceable Requirements - Clean Air Act (Sections I through IX) State Only Enforceable Requirements (Section XIII)

March 7, 2012

Effective Date

March 7, 2017

Expiration Date

Thomas A. Faha

Director, Northern Regional Office

Signature Date

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I. Facility Information

Permittee

Aerojet Corporation (Aerojet) 7499 Pine Stake Road Culpeper, Virginia 22701

Responsible Official

Robert E. Shenton Vice President of Sustainable Operations

Facility

Aerojet - Orange County Facility 7499 Pine Stake Road Culpeper, Virginia 22701

Contact Person

Timothy E. Holden Environmental & Safety Manager, Virginia Operations (540) 854-2037

County-Plant Identification Number: 51-137-0022

Facility Description: NAICS Codes 336415, 336399, 332999— The facility manufactures and reworks rocket motors and associated components. The facility also manufactures propellants which it periodically test fires and open burns on-site, and conducts research and development (R&D) of rocket motors, associated components and the propellants for automobile air bag systems.

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II. Significant Emission Units

Equipment to be operated consists of the following:

Equipment to be operated consists of the following:							
Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity ¹	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Rocket Test Firing							
EU-01(A)	-	Rocket Test Facility	2,000 lb/hr of propellant	None		-	07/14/11 ²
Waste Thermal Treatment							
EU-01(B)	-	Thermal Treatment Facility	10,000 lb/hr of waste propellant	None	-	-	07/14/11
Facility-W	ide Surf	ace Coating and Adhesive	Application Opera	tions			
	-	Surface Coating (Hand Painting)	8 gal/hr of coatings and	None		••	
EU-02	PB-1 & PB-2	Surface Coating (Two Paint Booths)		High-density filters for paint overspray	PB-1A & PB-2A	PM .	07/14/11
Facility-W	ide Han	d-Wipe and Other Cleaning	Operations		·		
EU-03	-	Hand-Wipe Cleaning	1 gal/hr of solvents	None	-	-	07/14/11
Explosive	Explosives Drying Operation						
EU-04	-	Explosives Drying	500 lb/hr of explosives	None	-	-	07/14/11

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Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity ¹	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Solvent C	leaning	Machines			•		
EU-05	-	Solvent Cleaning Machines	1 gal/hr of solvents	None	-	-	07/14/11
Sparging	and Dry	ing Operations					
EU-06	-	Sparging and Drying Operations	10 lb/hr of solvent	None	-	-	07/14/11
Oxidizer C	Frinding	Operations					·
EU-07	OX-1 and OX-2	Oxidizer Grinding Operations ³	500 lb/hr of oxidizers	Dry Particulate Filter System	OX-1A and OX-2A	РМ	07/14/11
Grit Blast	Machine	es					
EU-08	GB-1 thru GB-3	Grit Blast Machines ⁴	200 lb/hr of grit- blasting media	Dry Particulate Filter System	GB-1A thru GB-3A	РМ	07/14/11
Propellant	Machin	ing Operations			·	· · · · · · · · · · · · · · · · · · ·	······································
EU-09	PM-1	Propellant Machining Operations ⁵	250 lb/hr of propellants	Particulate Collection Systems	PM-1A and PM-2A	PM	07/14/11

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Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity ¹	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Insulation Machining Operations							
EU-10	IM-1	Insulation Machining Operations	25 lb/hr of insulated components	Dry Particulate Filter System	IM-1A	PM	07/14/11
Phenolic a	and Rub	ber Parts Machining Operat	tions			<u> </u>	
EU-11	RM-1	Phenolic and Rubber Parts Machining Operations	100 lb/hr of phenolic and rubber parts	Dry Particulate Filter System	RM-1A	PM	07/14/11

- 1. The size/rated capacity is provided for informational purposes only, and is not an applicable requirement.
- 2. This is the date of the current minor new source review permit issued to the facility.
- 3. Two of the oxidizer units are not vented to the atmosphere.
- 4. One of the grit blast machines is vented inside the production building.
- 5. Propellant lathes are not vented to the atmosphere. Propellant saw is vented. Wet suppression system is used for propellant saw.

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III. Process Equipment Requirements – Rocket Test Facility [EU-01(A)] and Thermal Treatment Facility [EU-01(B)]

A. Limitations

- Except as specified in Conditions III.A.2 and III.A.5, the maximum quantity of propellant fired per test firing event at the rocket test facility [EU-01(A)] shall not exceed 2,000 pounds. The quantity of propellant test fired at the rocket test facility [EU-01(A)] shall not exceed 2,000 pounds in any one 24-hour period. The quantity of propellant fired at the rocket test facility [EU-01(A)] shall not exceed 4.8 tons per year, calculated monthly as the sum of each consecutive twelve-month period. (9 VAC 5-80-110, 9 VAC 5-60-300, 9 VAC 5-80-1180 and Condition 17 of MNSR Permit No. 40743)
- The maximum quantity of the worst-case lead-based propellant fired per test firing event at the rocket test facility [EU-01(A)] shall not exceed 700 pounds. The quantity of the worst-case lead-based propellant test fired at the rocket test facility shall not exceed 700 pounds in any one 24-hour period.
 (9 VAC 5-80-110, 9 VAC 5-60-300, 9 VAC 5-80-1180 and Condition 18 of MNSR Permit No. 40743)
- 3. Except as specified in Conditions III.A.4 and IIII.A.5, the maximum quantity of waste explosives/propellants combusted per open burning event at the thermal treatment facility [EU-01(B)] shall not exceed 10,000 pounds. The quantity of waste explosives/propellants combusted at the thermal treatment facility shall not exceed 10,000 pounds in any one 24-hour period. The quantity of waste explosives/propellants combusted at the thermal treatment facility [EU-01(B)] shall not exceed 240 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-60-300, 9 VAC 5-80-1180 and Condition 19 of MNSR Permit No. 40743)
- 4. The maximum quantity of the worst-case lead-based waste propellant combusted per open burning event at the thermal treatment facility [EU-01(B)] shall not exceed 1,000 pounds. The maximum quantity of the worst-case hydrogen chloridegenerating waste propellant combusted per open burning event shall not exceed 6,000 pounds.
 - (9 VAC 5-80-110, 9 VAC 5-60-300, 9 VAC 5-80-1180 and Condition 20 of MNSR Permit No. 40743)
- 5. When both a test firing event at the rocket test facility [EU-01(A)] and an open burning event at the thermal treatment facility [EU-01(B)] occur within the same 24-hour period, the maximum quantity of propellant fired at the rocket test facility shall not exceed 500 pounds and the maximum quantity of waste explosives/propellants combusted at the thermal treatment facility shall not exceed 9,500 pounds.
 (9 VAC 5-80-110, 9 VAC 5-60-300, 9 VAC 5-80-1180 and Condition 21 of MNSR Permit No. 40743)
- 6. The test-firing events at the rocket test facility [EU-01(A)] are restricted to rocket propellants and liquefied propane (supplemental fuel for "Air Facility"). The usage of propane shall not exceed 7,500 gallons per year, calculated monthly as the sum of the each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 22 of MNSR Permit No. 40743)

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7. The open burning events at the thermal treatment facility [EU-01(B)] are restricted to diesel fuel (catalyst fuel) and waste explosives/propellants. The usage of diesel fuel shall not exceed 5,000 gallons per year, calculated monthly as the sum of each consecutive twelve-month period.

(9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 23 of MNSR Permit No. 40743)

8. Emissions from the combined operation of the rocket test facility [EU-01(A)] and the thermal treatment facility [EU-01(B)] shall not exceed the limits specified below (where used, footnote indicates averaging period). The annual emissions shall be calculated monthly as the sum of each consecutive twelve-month period.

Particulate Matter & PM ₁₀		119.4 tons/yr
Total Nitrogen Oxides (as Total NO _x)		5.9 tons/yr
Sulfur Dioxide	•	0.03 tons/yr
Carbon Monoxide		3.8 tons/yr
Volatile Organic Compounds (VOC)		6.1 tons/уг
Cadmium	0.7 lbs/hrª	0.01 tons/yr
Chlorine	194.4 lbs/hrª	4.0 tons/yr
Chromium (Total)	12.8 lbs/hr ^a	0.24 tons/yr
Hydrogen Chloride	1915.0 lbs/hrª	54.3 tons/yr
Hydrogen Fluoride	14.6 lbs/hrª	0.32 tons/yr
Lead	33.3 lbs/hrª	4.8 tons/yr

a hourly average

Exceedance of the operating limits shall be considered credible evidence of the exceedance of the emission limits. Compliance with these emission limits shall be determined as stated in Conditions III.A.1 – III.A.7 and III.B.1.

(9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-300 and Condition 28 of MNSR Permit No. 40743)

- Particulate matter (PM) and PM-10 emissions from the operation of the rocket motor test facility [EU-01(a)] shall not exceed 714 lbs/hr.
 (9 VAC 5-80-110, 9 VAC 5-220-30 and Condition 29 of MNSR Permit No. 40743)
- 10. Upon request of the DEQ, the rocket test facility [EU-01(A)] and the thermal treatment facility [EU-01(B)] shall be shut down immediately if emissions increase above those emission limits established in Conditions III.A.8 and III.A.9 of this permit because of a bypass, malfunction, shutdown or failure of the process or its associated air pollution control equipment. The processes shall not return to operation until they and the associated air pollution control equipment are able to operate in a proper manner.
 - (9 VAC 5-80-110, 9 VAC 5-20-180 F 3 and Condition 30 of MNSR Permit No. 40743)
- 11. The thermal destruction of waste explosives/propellants in the thermal treatment facility [EU-01(B)] shall be conducted in accordance with the regulations of the Virginia Waste Management Board.

(9 VAC 5-80-110, 9 VAC 5-40-5620 A&E and 9 VAC 5-40-5630 (1))

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B. Monitoring and Recordkeeping

 The permittee shall monitor and maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the DEQ's Northern Regional Office (NRO). These records shall include the following:

Rocket Test Facility [EU-01(A)]

- a. Start time, date, and quantity (in pounds) of propellant fired per testing event. The end time of the test event shall be recorded whenever the duration of the event lasts longer than one hour.
- b. Maximum hourly per month, monthly and annual totals of propellant fired (in pounds and/or tons). Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.
- c. The maximum quantity of the worst-case lead-based propellant fired per test firing event
- d. Hourly calculated emissions (in pounds) of particulate matter (PM) and PM-10 for each rocket testing event.
- e. Monthly and annual totals of liquefied propane (in gallons) used as a supplemental fuel. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.

Thermal Treatment Facility [EU-01(B)]

- f. Start times, dates and quantities (in pounds) of waste explosives/propellants and lead-based waste propellants combusted per open burning event. The end time of the burn event shall be recorded whenever the duration of the event lasts longer than one hour.
- g. Maximum hourly per month, monthly and annual totals (in pounds and/or tons) of the waste explosives/propellants combusted. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.
- h. Monthly and annual totals of diesel fuel (in gallons) used as a catalyst fuel. Annual totals shall be calculated monthly as the sum of each consecutive twelvementh period.

Rocket Test Facility [EU-01(A)] and Thermal Treatment Facility [EU-01(B)]

- i. Hourly calculated emissions for lead, hydrogen chloride, chlorine, cadmium, total chromium, and hydrogen fluoride per rocket testing and open burning event.
- j. Monthly and annual calculated emissions (in pounds and/or tons) of each pollutant listed in III.A.8. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.
- k. The maximum quantity of propellant fired per day (in pounds) at the rocket test facility and the thermal treatment facility, whenever a test-firing event and an open-burn event occur within the same 24-hour period.

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 Propellant types and derived emission factors for all regulated air pollutants emitted from the rocket test facility and the thermal treatment facility.
 VAC 5-80-110, 9 VAC 5-50-50, 9 VAC 5-220-40 and Condition 40 of MNSR Permit No. 40743)

C. Reporting

 The permittee shall provide written notification to the Air Compliance Manager of the DEQ's NRO, whenever it is known by the permittee that operation of the thermal treatment facility [EU-01(B)] is not in accordance with the regulations of the Virginia Waste Management Board. Notification shall be sent to:

Regional Air Compliance Manager, NRO 13901 Crown Court Woodbridge, VA 22193 (9 VAC 5-80-110 and 9 VAC 5-170-160)

D. Initial Notifications

- 1. The permittee shall furnish written notification to the Regional Air Compliance Manager of the DEQ's NRO at the address listed in Condition III.C.1. of:
 - The actual date on which construction of Rocket Test Bay 4 (Ref. No. EU-01(A))
 commenced within thirty days after such date. The notification must include the
 following:
 - a) Name and address of the permittee;
 - b) The address of the affected source;
 - ii. The anticipated start-up date of Rocket Test Bay 4 (Ref. No. EU-01(A)), postmarked not more than sixty days nor less than thirty days prior to such date.
 - iii. The actual start-up date of Rocket Test Bay 4 (Ref. No. EU-01(A)) within 15 days after such date.

(9 VAC 5-50-50, 9 VAC 5-80-1180 and Condition 35 of MNSR Permit No. 40743)

IV. Process Equipment Requirements — Facility-Wide Surface Coating and Adhesive Application Operations [EU-02]

A. Limitations

- 1. The coatings used in the surface coating and adhesive application operations [EU-02] shall meet the criteria of specialty coatings provided in 40 Code of Federal Regulations (CFR) Part (§) 63.742 or comply with the standards for primer and topcoat application operations of 40 CFR §63.745. (See attached 40 CFR §63, Subpart GG, National Emission Standards for Aerospace Manufacturing and Rework Facilities (Aerospace NESHAP).)
 - (9 VAC 5-80-110, 9 VAC 5-170-160, 40 CFR Part 63, Subpart GG, and Condition 3 of MNSR Permit No. 40743)
- 2. Volatile organic compound (VOC) and VOC-hazardous air pollutant (HAP) emissions from the surface coating operations [EU-02] shall be controlled by the handling and transfer of primers and topcoats to or from containers, tanks, vats, vessels, and

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piping systems in such a manner that minimizes spills. Coatings that are defined as specialty coatings under 40 CFR §63.742 are not subject to the requirements of this condition.

(9 VAC 5-80-110, 40 CFR §63.745(b) and Condition 7 of MNSR Permit No. 40743.

VOC emissions from the surface coating and adhesive application operations [EU-02] shall not exceed 5.3 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-300 and Condition 27 of MNSR

Permit No. 40743)

4. Except as specified in this permit, the surface coating and adhesive application operations [EU-02] subject to the Aerospace NESHAP shall be conducted in compliance with the applicable requirements of 40 CFR §63, Subpart GG. This provision includes complying with Table 1 to Subpart GG - General Provisions (Subpart A) Applicability to Subpart GG. (9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-110, 40 CFR §63, Subpart A & GG

(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-110, 40 CFR §63, Subpart A & GG and Condition 33 of MNSR Permit No. 40743)

5. The material throughput in the surface coating and adhesive application operations [EU-02] shall not exceed the values listed below, calculated monthly as the sum of the each consecutive twelve-month period:

a. Surface coatings

4,500 pounds/year

b. Adhesives

4,500 pounds/year

c. Miscellaneous coatings

1,500 pounds/year

(9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 24 of MNSR Permit No. 40743)

6. Visible emissions from the exhaust of each spray paint booth [EU-02] shall not exceed twenty percent opacity as determined by EPA Method 9 (reference 40 CFR §60, Appendix A. This condition applies at all times except during startup, shutdown and malfunction.

(9 VAC 5-50-80, 9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-20.A.4 and Condition 32 of MNSR Permit No. 40743)

- 7. Particulate emissions from each spray paint booth [EU-02] shall be controlled by a dry particulate filter system. The filter system shall be operated in accordance with the manufacturer's instructions, shall be provided with adequate access for inspection, and shall be in operation whenever the spray booth is operating. If non-specialty coatings are applied in the paint booth, then the equipment shall be operated in accordance with 40 CFR §63.745(g).
 (9 VAC 5-80-110, 9 VAC 5-50-20E, 9 VAC 5-50-260, 40 CFR §63.744(b), 40 CFR
 - (9 VAC 5-80-110, 9 VAC 5-50-20E, 9 VAC 5-50-260, 40 CFR §63.744(b), 40 CFR §63.745(g) and Condition 8 of MNSR Permit No. 40743)
- 8. The spray gun cleaning activities [EU-02] shall comply with the applicable requirements of 40 CFR §63.744(c)(2) through (c)(4). Spray gun cleaning operations using cleaning solvent solutions that contain HAPs and VOCs below the de minimis levels specified in 40 CFR §63.741(f) are exempt from these requirements. (9 VAC 5-80-110, 40 CFR §63.744(c) and Conditions 4 and 9 of MNSR Permit No. 40743)

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9. Fugitive VOC emission controls shall include the following, or equivalent, as a minimum:

VOCs shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions. (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-20, 9 VAC 5-50-90 and Condition 11 of MNSR Permit No. 40743)

B. Monitoring and Recordkeeping

- 1. The permittee shall monitor and maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the DEQ's NRO. These records shall include the following:
 - Monthly and annual consumption (in gallons and/or pounds) of the surface coatings, adhesives and miscellaneous coatings used. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period;
 - b. Material Safety Data Sheet (MSDS) or a certified product data sheet showing the VOC content (pounds per gallon less water) for each surface coating and adhesive:
 - Monthly and annual VOC emissions (in pounds and/or tons) resulting from surface coating and adhesive application. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period;
 - d. The "super" paint, adhesive and miscellaneous coating formulations for the surface coating and adhesive application operations; and
 - e. The information specified in 40 CFR §63.752(c) and (d) for any primer and topcoat application operations that utilize non-specialty coatings, where applicable.
 - (9 VAC 5-80-110, 9 VAC 5-50-20, 40 CFR §63.752 and Condition 40 of MNSR Permit No. 40743)
- The permittee shall comply with the applicable requirements for monitoring (40 CFR §63.751) and recordkeeping (40 CFR §63.752) for any coatings not meeting the definition of specialty coatings used for operations subject to 40 CFR Part 63, Subpart GG.
 - (9 VAC 5-80-110 and 40 CFR §63.751 and §63.752)
- 3. The permittee shall conduct weekly visual emission inspections on the exhaust of each spray paint booth [EU-02] during daylight hours when the source is operating. Visual inspections shall consist of a visual survey of the exhaust over a minimum two-minute period to identify if there are visible emissions other than condensed water vapor. If there are no visible emissions observed during this period, then the permittee shall record this fact and no further action is necessary for that particular weekly inspection. If any visible emissions other than condensed water vapor are observed, then the permittee shall:
 - a. Conduct a visible emissions evaluation (VEE) using a certified opacity reader in accordance with Method 9 (40 CFR Part 60, Appendix A) for a minimum of six

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minutes, unless the visible emissions condition is corrected as expeditiously as possible. If the average opacity of the emissions from the exhaust of the spray paint booth [EU-02] exceeds twenty percent during any six-minute period, then a VEE shall be conducted immediately on the source for a consecutive sixtyminute period to determine compliance with the visible emissions standard prescribed in Condition IV.A.6. The VEE shall be conducted in accordance with Method 9 (40 CFR §60, Appendix A).

b. Record the results of the weekly visible emission inspections, the substance of any corrective actions, and the result of all visible emissions evaluations conducted in accordance with Method 9 (40 CFR §60, Appendix A).

(9 VAC 5-50-80, 9 VAC 5-80-110 and Condition 41 of MNSR Permit No. 40743)

C. Testing

1. If compliance testing is conducted in addition to the monitoring specified in section IV.B of this permit, the permittee shall use 40 CFR Part 60, Appendix A, Method 24 -Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings - in accordance with procedures approved by the DEQ.

(9 VAC 5-80-110)

2. If compliance testing is conducted in addition to the monitoring specified in section IV.B of this permit, the permittee shall use the test methods and procedures in 40 CFR §63.750 for coatings not meeting the definition of specialty coatings used for operations subject to 40 CFR §63, Subpart GG. (9 VAC 5-80-110 and 40 CFR §63.750)

D. Reporting

1. The permittee shall submit semi-annual reports to the EPA and the Air Compliance Manager of the DEQ's NRO, at the address listed in Condition III.C.1, that contain the information specified in 40 CFR §63.753(c) for any primer and topcoat application operations that utilize non-specialty coatings, where applicable. The reports shall also identify any instance where a non-compliant spray gun cleaning method was used.

For the purposes of this condition, the semi-annual reports shall be submitted by May 1 and November 1 of every year for the respective reporting periods of September 1 through February 28 (29) and March 1 through August 31. (9 VAC 5-80-110, 40 CFR §63.753(b) and (c) and Condition 42 of MNSR Permit No. 40743)

- 2. The permittee shall notify the Air Compliance Manager of the DEQ's NRO, if any of the coatings used in the surface coating operations [EU-02] do not meet the criteria of specialty coatings provided in 40 CFR §63.742. (9 VAC 5-80-110, 9 VAC 5-170-160 and Condition 37 of MNSR Permit No. 40743)
- 3. Notification will be made as part of the semi-annual Aerospace NESHAP compliance reports required by Condition IV.D.1. (9 VAC 5-80-110, 9 VAC 5-170-160 and Condition 37 of MNSR Permit No. 40743)
- The permittee shall notify the EPA and the Air Compliance Manager of the DEQ's NRO of construction of the second spray paint booth (Ref. No. EU-02). This onetime notification shall be submitted on or before March 1 of the appropriate year for

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the preceding calendar year. The notice shall contain the information specified in 40 CFR §63.5(b)(4), except that such information shall be limited to inorganic HAPs. (40 CFR §63.743(a)(10), 40 CFR §63.5(b)(4) and Condition 43 of MNSR Permit No. 40743)

V. Process Equipment Requirements – Facility-Wide Hand-Wipe and Other Cleaning Operations [EU-03]

A. Limitations

- 1. The solvent hand-wipe cleaning operations [EU-03] subject to 40 CFR §63, Subpart GG shall meet the criteria of exempt cleaning operations as defined under 40 CFR §63.744(e) or comply with the hand-wipe cleaning requirements of 40 CFR §63.744(b). (See attached 40 CFR §63, Subpart GG, Aerospace NESHAP.) (9 VAC 5-80-110, 9 VAC 5-170-160, 40 CFR §63 Subpart GG, and Condition 2 of MNSR Permit No. 40743)
- 2. VOC and VOC-HAP emissions from any solvent hand-wipe cleaning operations [EU-03] subject to 40 CFR §63, Subpart GG shall be controlled by the following:
 - a. Place cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed containers upon completing their use. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.
 - Store fresh and spent cleaning solvents used in aerospace cleaning operations in closed containers. Semi-aqueous solvent cleaners are exempt from this requirement.
 - c. Conduct the handling and transfer of cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent cleaning solvents in such a manner that minimizes spills.

Approved cleaning solvents (§63.744, Table 1) and solvent solutions that contain HAPs and VOCs below the de minimis levels specified in §63.741(f) are exempt from these requirements.

(9 VAC 5-80-110, 40 CFR §63.744(a) and Condition 6 of MNSR Permit No. 40743)

- 3. The solvent consumption for all hand-wipe cleaning operations [EU-03] shall not exceed 12.2 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 16 of MNSR Permit No. 40743)
- 4. VOC emissions from all hand-wipe cleaning operations [EU-03] shall not exceed 10.0 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-300 and Condition 27 of MNSR Permit No. 40743)

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5. Except as specified in this permit, the hand-wipe cleaning operations [EU-03] subject to the Aerospace NESHAP shall be conducted in compliance with the applicable requirements of 40 CFR §63, Subpart GG. This provision includes complying with Table 1 to Subpart GG - General Provisions (Subpart A) Applicability to Subpart GG. (9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-110, 40 CFR §63, Subparts A & GG and Condition 33 of MNSR Permit No. 40743)

- Fugitive VOC emission controls shall include the following, or equivalent, as a minimum:
 - a. VOCs shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
 - (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-20, 9 VAC 5-50-90 and Condition 11 of MNSR Permit No. 40743)

B. Monitoring and Recordkeeping

- 1. The permittee shall monitor and maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to, the following:
 - Material Safety Data Sheet (MSDS) or a certified product data sheet or other technical data for each cleaning solvent used;
 - b. For each cleaning solvent used in the exempt cleaning operations (i.e., defined under 40 CFR §63.744(e)) that does not conform to the vapor pressure or composition requirements of 40 CFR §63.744(b):
 - (1) The identity and amount (in gallons) of each cleaning solvent used each month at each operation;
 - (2) A list of the processes set forth in 40 CFR §63.744(e) to which the cleaning operation applies;
 - c. The monthly and annual consumption (in pounds and/or tons) of solvent for the hand-wipe cleaning operations. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period; and
 - d. The monthly and annual calculated VOC emissions (in pounds and/or tons) from all hand-wipe cleaning operations. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-50-50, 40 CFR §63.752, and Condition 40 of MNSR Permit No. 40743)
- The permittee shall comply with the applicable recordkeeping requirements in 40 CFR §63.752(b) for any hand-wipe cleaning operation that is not considered an exempt cleaning operation under 40 CFR §63.744(e) but is conducted in the manufacture or rework of aerospace vehicles or components, as defined by 40 CFR §63.742.

(9 VAC 5-80-110 and 40 CFR §63.752(b))

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C. Testing

1. To determine whether each cleaning solvent used in the exempt cleaning operations (40 CFR §63.744(e)) does or does not conform (for purposes of reporting only) to the vapor pressure or composition requirements of 40 CFR §63.744(e), the permittee shall use the test methods and procedures under 40 CFR §63.750 (a) and (b) if compliance testing is conducted in addition to the monitoring specified in section V.B of this permit. Composition determination is accomplished by using data supplied by the manufacturer of the cleaning solvent. The data shall identify all components of the cleaning solvent. Vapor pressure for single-component hand-wipe cleaning solvents shall be determined using MSDS or other manufacturer's data, standard engineering reference texts, or other equivalent methods. Composite vapor pressure of a blended hand-wipe solvent shall be determined under 40 CFR §63.750(b)(2). (9 VAC 5-80-110 and 40 CFR §63.750)

2. If compliance testing is conducted in addition to the monitoring specified in section V.B of this permit, then the permittee shall use the test methods and procedures in 40 CFR §63.750 for hand-wipe cleaning operations (conducted in the manufacture or rework of aerospace vehicles or components as defined by 40 CFR §63.742) that are not considered exempt cleaning operations under 40 CFR §63.744(e). (9 VAC 5-80-110 and 40 CFR §63.750)

D. Reporting

- 1. The permittee shall submit semi-annual reports to the EPA and the Air Compliance Manager of the DEQ's NRO, at the address listed in Condition III.C.1, that identify the following information:
 - a. Any instance where a non-compliant cleaning solvent was used for a non-exempt hand-wipe cleaning operation:
 - b. A list of any new cleaning solvents used for non-exempt hand-wipe cleaning operations in the previous six months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR §63.744(b)(1); and
 - c. A statement that the cleaning operations have been in compliance for the semi-annual period, if the operations have been in compliance for the semi-annual period. The permittee shall also submit a statement of compliance signed by a responsible company official certifying that the facility is in compliance with all applicable requirements of 40 CFR Part 63, Subpart GG.

For the purposes of this condition, the semi-annual reports shall be submitted by May 1 and November 1 of every year for the respective reporting periods of September 1 through February 28 (29) and March 1 through August 31. (9 VAC 5-80-110, 40 CFR §63.753(b), and Condition 40 of MNSR Permit No. 40743)

 The permittee shall notify the Air Compliance Manager of the DEQ's NRO, if the facility engages in any solvent hand-wipe cleaning operations that are not considered exempt cleaning operations as specified in 40 CFR §63.744(e). Notification will be made as part of the semi-annual Aerospace NESHAP compliance reports required by Condition V.D.1.

(9 VAC 5-80-110, 9 VAC 5-170-160 and Condition 37 of MNSR Permit No. 40743)

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VI. Process Equipment Requirements – Explosives Drying Operation [EU-04]

A. Limitations

- The amount of explosives dried [EU-04] shall not exceed 60.0 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 (9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 15 of MNSR Permit No. 40743)
- VOC emissions from the drying of explosives [EU-04] shall not exceed 2.7 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-300 and Condition 27 of MNSR Permit No. 40743)

B. Monitoring and Recordkeeping

- 1. The permittee shall monitor and maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to, the following:
 - Monthly and annual quantity of explosives dried [EU-04] (in pounds and/or tons).
 Annual totals shall be calculated monthly as the sum of each consecutive twelvementh period;
 - b. Material Safety Data Sheet (MSDS) for each explosive dried, to include solvent content; and
 - c. Monthly and annual calculated VOC emissions (in pounds and/or tons) from the explosives drying operation [EU-04]. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-50-50 and Condition 40 of MNSR Permit No. 40743)

C. Testing

 If compliance testing is conducted in addition to the monitoring specified in section VI.B of this permit, the permittee shall use 40 CFR Part 60, Appendix A, Method 25 -Determination of Total Gaseous Nonmethane Organic Emissions as Carbon or 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer - in accordance with procedures approved by the DEQ. (9 VAC 5-80-110)

VII. Process Equipment Requirements – Solvent Cleaning Machines [EU-05]

A. Limitations

- Except as specified in this permit, the solvent cleaning machines [EU-05] subject to the National Emission Standards (NESHAP) for Halogenated Solvent Cleaning shall be operated in compliance with the applicable requirements of 40 CFR §63, Subpart T. This provision includes complying with Appendix B to Subpart T - General Provisions (Subpart A) Applicability to Subpart T. (See attached 40 CFR §63, Subpart T.)
 (9 VAC 5-80-110, 40 CFR §63, Subparts A & T and Condition 5 of MNSR Permit No. 40743)
- 2. VOC and VOC-HAP emissions from the batch vapor degreaser [EU-05] shall be controlled by complying with the following requirements:

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- Maintaining a log of solvent additions and deletions;
- b. Ensuring that the emissions from each solvent cleaning machine are equal to or less than 150 kilograms per square meter per month (30.7 pounds per square foot per month), as a three-month rolling average value; and
- c. Demonstrating compliance with the three-month rolling average emission limit on a monthly basis as specified in §63.465(b) and (c).
- (9 VAC 5-80-110, 40 CFR §63.464(a)(1) and (b), and Condition 10 of MNSR Permit No. 40743)
- 3. The solvent throughput in the solvent cleaning machines [EU-05] shall not exceed 2.9 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 25 of the MNSR Permit No. 40743)
- 4. VOC emissions from the solvent cleaning machines [EU-05] shall not exceed 2.9 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-300 and Condition 27 of MNSR Permit No. 40743)
- 5. Fugitive VOC emission controls shall include the following, or equivalent, as a minimum:
 - a. VOCs shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any manner that would results in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
 - (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-20, 9 VAC 5-50-90 and Condition 11 of MNSR Permit No. 40743)

B. Monitoring and Recordkeeping

- The permittee shall monitor and maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to, the following:
 - Monthly and annual quantity of solvent (in pounds and/or tons) processed in the solvent cleaning machines. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period;
 - Material Safety Data Sheet (MSDS) or a certified product data sheet or other technical data for each solvent processed that shows the VOC concentration of the material;
 - Monthly and annual calculated VOC emissions (in pounds and/or tons) from the solvent cleaning machines. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period; and
 - d. The following information for the vapor degreasers [EU-05]:
 - The dates and amounts of solvent that were added to each solvent cleaning machine;

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ii. The solvent composition of any wastes removed from each cleaning machine (as determined using the procedures specified in §63.465(c)(2)); and

iii. Calculation sheets showing how monthly emissions and the rolling threemonth average emissions from each solvent cleaning machine were determined, and the results of all calculations.

(9 VAC 5-80-110, 9 VAC 5-50-50, 40 CFR §63.467 and Condition 40 of MNSR Permit No. 40743)

C. Reporting

- The permittee shall submit semi-annual reports to the EPA and the Air Compliance Manager of the DEQ's NRO, at the address listed in Condition III.C.1 that identify the following information:
 - a. If the vapor degreasers have not been in compliance with Subpart T, then a statement explaining the reason(s) for the exceedance and a description of the corrective action(s) taken.
 - b. The size and type of the vapor degreaser units (annual report only);
 - The average monthly solvent consumption (in kilograms and/or pounds per month) for each solvent cleaning machine for the preceding twelve-month reporting period (annual report only);
 - d. For each solvent cleaning machine, the three-month monthly rolling average solvent emission estimates calculated each month for the preceding twelve-month reporting period (annual report only); and
 - e. A statement of compliance signed by a responsible company official certifying that the facility is in compliance with all applicable requirements of 40 CFR §63, Subpart T.

For the purposes of this condition, the semi-annual reports shall be submitted by January 30 (annual report) and July 30 of every year for the respective reporting periods of July 1 through December 31 and January 1 through June 30. (9 VAC 5-80-110, 40 CFR §63.468(g) and (h), and Condition 44 of MNSR Permit No. 40743)

VIII. Process Equipment Requirements - Sparging & Drying Operations [EU-06]

A. Limitations

- 1. The solvent throughput in the sparging and drying operations [EU-06] shall not exceed 2.8 tons per year, calculated monthly as the sum of each consecutive twelvementh period.
 - (9 VAC 5-80-110, 9 VAC 5-80-1180 and Condition 26 of MNSR Permit No. 40743)
- 2. VOC emissions from the sparging and drying operations [EU-06] shall not exceed 1.8 tons per year, calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-60-300 and Condition 27 of MNSR Permit No. 40743)

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3. As of the date of this permit, the permittee is allowed to use the following volatile HAPs in the sparging and drying operations [EU-06]:

Hexane (CAS #110-54-3)

Methylene chloride (CAS #75-09-2)

Per 9 VAC 5-60-300 et seq., the permittee may use additional HAPs in the sparging and drying operations without obtaining a new permit provided that the following conditions are met:

- a. Notification is provided to the Air Compliance Manager of the DEQ's NRO, at the address in Condition III.C.1. Such notification shall be made within 15 days after the use of additional HAPs and shall include identification of the HAPs, the date each HAP was first used, the anticipated maximum throughput of the compounds in pounds/hour and tons/year, and calculations demonstrating that the anticipated maximum throughput does not exceed the limitations specified in Condition VIII.A.1. Additional details of the notification shall be arranged with the Air Compliance Manager of the DEQ's NRO.
- b. Emissions of each HAP shall not exceed the exemption levels specified in 9 VAC 5-60-300 C.1. In no event shall the emissions of any volatile HAP exceed the hourly or annual VOC emission limitations for the sparging & drying operations.
- c. The permittee shall record the monthly and annual emissions (in pounds or tons) of each HAP substituted under this Condition. Annual emissions shall be calculated monthly as the sum of each consecutive twelve-month period.
- d. The permittee shall not use any HAP in the sparging and drying operations that would make the facility subject to federal emission standards in 40 CFR §61 or §63.
- e. If a permit is required, then failure to obtain a permit prior to the change in process formulation or the use of any additional HAP may result in enforcement action.

This Condition shall not apply to the following units whose HAP emissions are regulated under a NESHAP subpart: (1) surface coating and adhesive application operations [EU-02], (b) hand-wipe and other cleaning operations [EU-03] and (c) solvent cleaning machines [EU-05]. This Condition shall not apply to any existing, new or modified exempt emission units whose HAP emissions satisfy the requirements of 9 VAC 5-60-300 et seq.

- (9 VAC 5-80-110, 9 VAC 5-80-1120 F, 9 VAC 5-170-160, 9 VAC 5-60-300 and Condition 31 of MNSR Permit No. 40743)
- 4. Fugitive VOC emission controls shall include the following, or equivalent, as a minimum:
 - a. VOCs shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any manner that would results in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
 (9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-20, 9 VAC 5-50 and Condition 11 of

(9 VAC 5-80-110, 9 VAC 5-50-260, 9 VAC 5-50-20, 9 VAC 5-50 and Condition 11 of MNSR Permit No. 40743)

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B. Monitoring and Recordkeeping

- 1. The permittee shall monitor and maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to the following:
 - Monthly and annual quantities of solvent (in pounds and/or tons) processed in the sparging and drying operations. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period;
 - b. Material Safety Data Sheet (MSDS) for each solvent-stabilized energetic material ("lacquer") and stabilizing solvent processed; and
 - c. Monthly and annual calculated VOC emissions (in pounds and/or tons) from the sparging and drying operations. Annual totals shall be calculated monthly as the sum of each consecutive twelve-month period.
 - (9 VAC 5-80-110, 9 VAC 5-50-50 and Condition 40 of the MNSR Permit No. 40743)

IX. Process Equipment Requirements – PM-Emitting Process Equipment [EU-07 through EU-11]

A. Limitations

- Particulate emissions (PM & PM-10) from operation of the following equipment (with the exception of the propellant cut-back saw (EU-09)) shall be controlled with an appropriate dust collection system at each source:
 - a. Oxidizer grinders [EU-07];
 - b. Grit blast machines [EU-08];
 - c. Propellant machining operations [EU-09];
 - d. Insulation machining operations [EU-10]; and
 - e. Phenolic and rubber parts machining operations [EU-11].

The dust collection system at each source shall have a control efficiency of 95% or greater. Emission controls and monitoring devices are only required on those new and modified units which are vented to the atmosphere. Particulate emissions from the propellant cut-back saw associated with the propellant machining operations (EU-09) shall be controlled with wet suppression.

(9 VAC 5-80-110, 9 VAC 5-80-850 and Condition 12 of MNSR Permit No. 40743)

B. Monitoring and Recordkeeping

1. Each of the emission units identified in Condition IX.A.1 which are vented to the atmosphere (with the exception of the propellant cut-back saw (EU-09)) shall be equipped with a device to continuously measure the differential pressure change across the filter. The monitoring device shall be installed, maintained, calibrated, and operated in accordance with approved procedures that shall include, as a minimum, the manufacturer's written requirements or recommendations. The

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monitoring device shall be provided with adequate access for inspection and shall be in operation when the emission unit is operating.

(9 VAC 5-80-110, 9 VAC 5-80-10 H, 9 VAC 5-50-20 C, 9 VAC 5-50-260, and Condition 13 of MNSR Permit No. 40743)

2. For each of the emission units identified in Condition IX.A.1 which are vented to the atmosphere (with the exception of the propellant cut-back saw (EU-09)), the control monitoring device used to continuously measure differential pressure change across the filter shall be observed by the permittee with a frequency of not less than once per day when the emission unit is in operation. The permittee shall keep a log of the observations.

(9 VAC 5-80-110, 9 VAC 5-50-50 and Condition 14 of MNSR Permit No. 40743)

X. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation ¹ (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-01	Nitramines, explosives and oxidizer grinding operations (vented internally)	Not Applicable (N/A)	No emissions	500 lbs/hr
IS-02	Inert ingredient preparation and screening operations (vented internally)	N/A	No emissions	500 lbs/hr
IS-03	Propellant mixing, casting and curing operations	5-80-720 B.2	PM and VOCs	4,500 lbs/batch
IS-04	Propellant machining operations (vented internally)	N/A	No emissions	250 lbs/hr
IS-06	Liner mixing and spraying operations	5-80-720 B.2 and B.5	VOCs and HAPs	75 lbs/hr
IS-07	Motor case X-ray unit (Linatron machine or equivalent)	5-80-720 B.2 and B.5	VOCs and HAPs	1 lb/hr
IS-FC-03	Diesel-fired emergency generator	5-80-720 C.4.b	PM, VOCs, SO ₂ , NO ₂ , CO	459 hp
IS-FC-04	Diesel-fired emergency generator	5-80-720 C.4.b	PM, VOCs, SO ₂ , NO ₂ , CO	20 hp
IS-A-01	Gasoline AST	5-80-720 B.2	VOCs	1,000 gallons
IS-A-02	Diesel fuel AST	5-80-720 B.2	VOCs	1,000 gallons

	, 4.4			
Emission Unit No.	Emission Unit Description	Citation ¹ (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-A-03	Fuel Oil Storage Tank	5-80-720 B.2	VOCs	300 gallons
IS-A-04	Ethylene glycol storage tanks	5-80-720 B.2	VOCs	Various tank capacities (150 to 1,000 gallons)
IS-08	Air Facility (ancillary equipment only – propane and TEB tanks)	5-80-720 B.2	VOCs	Various tank capacities (8 pounds to 1,000 gallons)
IS-09	R&D-related propellant combustion testing equipment	5-80-720 B.1, B.2 and B.5	PM, VOCs and HAPs	20 lbs/hr
IS-10	Adiprene mixing operations	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-11	Composites operations	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-12	Foam blowing operations	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-13	Grit blasting operations (vented internally)	N/A	No emissions	50 lbs/hr
IS-14	Propellant extruding operations	5-80-720 B.2	⁽ VOCs	50 lbs/hr
IS-15	Phenolic and rubber parts molding operations	5-80-720 B.1 and B.2	PM and VOCs	100 lbs/hr
IS-16	Insulation bake-out oven (Lindberg unit or equivalent)	5-80-720 B.2 and B.5	VOCs and HAPs	100 lbs/hr
IS-17	Miscellaneous curing ovens and autoclaves	5-80-720 B.2 and B.5	VOCs and HAPs	100 lbs/hr per unit
İS-18	Propellant R&D activities	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-19	Magnaflux machines (or equivalent)	5-80-720 B.2	VOCs	1.0 gal/hr per unit
IS-20	Miscellaneous vacuum ovens and autoclaves	5-80-720 B.2 and B.5	VOCs and HAPs	100 lbs/hr per oven

Emission Unit No.	Emission Unit Description	Citation ¹ (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-21	"PSRE" flushing unit	Per DEQ	Ozone- depleting chemical	150 gallons
IS-22	Motor case soak-out operations	5-80-720 B.2 and B.5	VOCs and HAPs	10 gal/hr
IS-23	Metalworking operations (vented internally)	N/A	No emissions	500 lbs/hr
IS-24	Scramjet rocket engine testing (using ethylene gas)	5-80-720 B.3	со	35 lbs/test
IS-25	Propane Fired Inert Verification Oven	5-80-720 B.1	NOx	0.5 MMBtu/hr
IS-26	Propane Tank	5-80-720 B.2	VOC's	1,000 gallons
IS-27	Ramjet rocket engine testing (using JP-10)	5-80-720 B.1, B.2 and B.3	PM, VOC's, SO ₂ , NO ₂ , CO	60 gal/hr 1,000 gal/yr
IS-28	Parts Washer Units for General Maintenance	5-80-720 B.2	VOC's	One 20 Gallon One 35 Gallon
IS-29	C4 Rocket motor testing w/asbestos impregnated rubber insulation	5-80-720 B.1 and B.5	PM-10, HAP's	0.5 lb/unit of insulation, 12 rocket motors per year
IS-30	Ramjet rocket engine testing (using JP-7)	5-80-720 B.1, B.2 and B.3	PM, VOC's, SO ₂ , NO ₂ , CO	60 gal/hr 1,000 gal/уг
IS-31	Ramjet and scramjet rocket engine testing (Using Hydrogen gas)	5-80-720 B.3	СО	200 lbs/hr 2,000 lbs/yr
IS-32	Long-Range rocket motors with turbojet engines (using JP-4)	5-80-720 B.1, B.2 and B.3	PM, VOC's, SO ₂ , NO ₂ , CO	60 gal/hr 1,000 gal/yr
IS-33	Rocket motor tests (using HAN)	5-80-720 B.1	NO ₂	5 lbs/hr 300 lbs/yr
IS-34	Ingredient preparation booth for R&D propellant formulations	5-80-720 B.1, B.4 and B.5	PM10, Lead, HAPs	10 lb/hr, 1,000 lb/уг

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Emission Unit No:	Emission Unit Description	Citation ¹ (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-35	Nitramines, explosives and oxidizer grinding operations (vented to the atmosphere)	5-80-720 B.1	PM	20 lb/hr
IS-36	Rocket motor tests (using methane and hydrogen gas mixtures)	N/A	No regulated emissions	5 gal/hr 40 gal/yr

¹The citation criteria for insignificant activities are as follows:

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

XI. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements, which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Inapplicability
9 VAC 5-80-360 through 9 VAC 5-80-705	Acid Rain Provisions	Not applicable facility-wide
40 CFR Part 60, Subpart Kb	NSPS for VOC Liquid Storage Tanks	Not applicable to any tanks currently on-site
40 CFR Part 61, Subpart D	NESHAP for Beryllium Rocket Motor Firing	Not applicable facility-wide
40 CFR Part 61, Subpart M	NESHAP for Asbestos	Not applicable facility-wide
40 CFR Part 63, Subpart PPPPP	NESHAP for Engine Test Cells/Stands	Not applicable facility-wide
40 CFR Part 63, Subpart T	NESHAP for Halogenated Solvent Cleaning	Does not apply to facility hand-wipe cleaning (EU-03)
9 VAC 5-80-1700 through 9 VAC 5-80-1970 and 40 CFR Part 52, §52.21	Standards for Prevention of Significant Deterioration	Facility's potential-to-emit for criteria pollutants does not exceed the 250 tons/year regulatory threshold for classification as a "major stationary source."

⁹ VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

⁹ VAC 5-80-720 B - Insignificant due to emission levels

⁹ VAC 5-80-720 C - Insignificant due to size or production rate

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Citation	Title of Citation	Description of Inapplicability
40 CFR Part 63, §63.6(e)	Startup, Shutdown and Malfunction (SSM) Plan	Not required for spray paint booths (EU-02) as long as dry particulate filter system are operated in accordance with manufacturer's instructions.
40 CFR Part 63, §63.6(e)	SSM Plan	Procedures specified in NESHAP Subpart T supersede the requirements for SSM Plan for solvent cleaning machines (EU-05)
40 CFR Part 63, Subpart GG, §63.745	Standards for Primer and Topcoat Application Operations	Specialty coatings (EU-02) are exempt from the Aerospace NESHAP control requirements
40 CFR Part 63, Subpart GG, §63.744(b)	Standards for Hand-Wipe Cleaning Operations	Hand-wipe cleaning operations (EU-03) performed prior to adhesive bonding are exempt from the Aerospace NESHAP control requirements.
40 CFR Part 63, §63.748	Standards for Handling and Storage of Waste	Does not apply to facility-wide waste storage and handling operations
40 CFR Part 68	Chemical Accident Prevention Provisions	Does not apply to facility-wide explosives processing activities
40 CFR Part 82, Subpart B	Servicing of Motor Vehicle Air Conditioners	Does not apply to facility servicing of facility owned/operated vehicles
9 VAC 5-50-80	Standard for Visible Emissions	Does not apply to emissions units EU-01(A), EU-01(B); does not apply to EU-03 through EU-06 because they do not generate visible emissions

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law. (9 VAC 5-80-140)

XII. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

(9 VAC 5-80-110 N)

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B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.

- 1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
- 2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.
- 3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
- 4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
- 5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

- a. The date, place as defined in the permit, and time of sampling or measurements.
- b. The date(s) analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses.
- f. The operating conditions existing at the time of sampling or measurement. (9 VAC 5-80-110 F)
- Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and

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copies of all reports required by the permit. (9 VAC 5-80-110 F)

- 3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than <u>March 1</u> and <u>September 1</u> of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
 - a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
 - b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
 - (1) Exceedance of emissions limitations or operational restrictions;
 - (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,
 - (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
 - c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."
 (9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than <u>March 1</u> of each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- 1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
- 2. The identification of each term or condition of the permit that is the basis of the certification.
- 3. The compliance status.
- 4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
- Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
- 6. Such other facts as the permit may require to determine the compliance status of the

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source.

7. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

R3_APD_Permits@epa.gov (9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall notify the Director, Northern Regional Office within four daytime business hours, after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within fourteen days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition XII.C.3 of this permit. (9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

F. Failure/Malfunction Reporting

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the Director, Northern Regional Office by facsimile transmission, telephone or telegraph of such failure or malfunction and shall, within fourteen days of discovery, provide a written statement giving all pertinent facts including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Northern Regional Office.

(9 VAC 5-20-180 C)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.

(9 VAC 5-80-110 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.

(9 VAC 5-80-110 G.2)

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I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(9 VAC 5-80-110 G.3)

J. Permit Modification

A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1790, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios. (9 VAC 5-80-190 and 9 VAC 5-80-260)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. (9 VAC 5-80-110 G.5)

L. Duty to Submit Information

- 1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
 - (9 VAC 5-80-110 G.6)
- Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G. (9 VAC 5-80-110 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-355. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by **April 15** of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.

(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the

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clearing of land;

- 2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
- 4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,
- 5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
- (9 VAC 5-40-90 and 9 VAC 5-50-90)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20.E.)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1. (9 VAC 5-80-110 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

- 1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
- 2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
- 4. Sample or monitor at reasonable times, substances or parameters for the purpose of

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assuring compliance with the permit or applicable requirements. (9 VAC 5-80-110 K.2)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than eighteen months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

- 1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- 2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- 3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request. (9 VAC 5-80-150 E)

T. Transfer of Permits

- No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another. (9 VAC 5-80-160)
- In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within thirty days of the transfer and shall comply with the requirements of 9 VAC 5-80-200. (9 VAC 5-80-160)
- 3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within thirty days of the name change and shall comply with the requirements of 9 VAC 5-80-200. (9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.

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- The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
 - A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
 - b. The permitted facility was at the time being properly operated.
 - c. During the period of malfunction, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.
 - d. The permittee notified the board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F 2 b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.
- 3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.
- The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.
 VAC 5-80-250)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations. (9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.

(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a

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standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F. (40 CFR Part 82, Subparts A-F)

Y. Asbestos Requirements

The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).

(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)

Z. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.

(40 CFR Part 68)

AA. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (9 VAC 5-80-110 I)

BB. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

- 1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
- 2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
- The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.
 (9 VAC 5-80-110 I)

XIII. State-Only Enforceable Requirements

The following terms and conditions are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9 VAC 5-80-290 concerning review of proposed permits by EPA and draft permits by affected states.

- 1. 9 VAC 5-50-130 through 9 VAC 5-50-150, Standards of Performance for Odorous Emissions
- 2. 9 VAC 5-50-160 through 9 VAC 5-50-230, Standards of Performance for Toxic Pollutants

(9 VAC 5-80-110 N and 9 VAC 5-80-300)